

Benson Farms

Mullen 4

3/23/11

Colby Drye

Agriculturist

Spreckels Sugar

3/23/2011

Colby Drye
Spreckels Sugar
395 West Keystone Rd
Brawley, Ca 92227

Benson Farms
P.O Box 239
Brawley, Ca 92227

Kevin

After reviewing the data shown on the attached sheets with the last two month's root samples, I would conclude that the additions of the biological had a certain effect on the crop in Mullen 4. Although it cannot be 100% conclusive I believe that there is a high probability that the Pure Ag applications did play a part in the difference of the health of the plants in this field. After reviewing the fertilizer history that you gave me I see that the amount of fertilizer applied to both the north and the south does not show large discrepancies in the amount applied. The North did receive more fertilizer overall than the south did and this is why I can't say conclusively that Pure Ag was the main reason for the difference. However the following reasons are why I believe the biological might have played a significant part in the difference. Visually there is a difference between the north and the south. In our conversation you had said that the north end had biologicals run on it all last year. This year the biologicals were run on the south end starting on 11/2/2010. Then again run three times consecutively starting in January. The expected time for the biologicals to take affect would be a couple months. The root samples showed a large difference between February and March. The average root weight jumped from 1.01 to 1.74, the estimated tons per acre jumped from 13.25 to 27.25, and the purity and sugar dropped slightly showing that the beet had again begun to grow. Also the uptake of nitrogen increased. One more thing that got my attention was the amount of phosphate still left in the soil on the south side of the field. There is a possibility that the plant didn't need it, however a lot of times if the phosphate is not fixed properly it is unable to be taken up by the plant. It is certain phosphate fixing biologicals that allow this to take place. In conclusion, I cannot say that Pure Ag was the main factor in the difference between the north and the south, more work would be needed to make that statement. However the data has a positive correlation with the time of application and the speedy increase in plant production.

Colby Drye
Agriculturist
Spreckels Sugar

SAMPLE NO. 3

ROOT SAMPLES - BRAWLEY FACTORY

Date: February 7, 2011

AGRICULTURIST	GROWER		CONTR NO	NO BEETS	SAMPLE WEIGHT	ROOT WEIGHT	TPA	BREI PPM	SUGAR %	% PURITY	BREI NO3
COLBY DRYE CENTRAL	John Benson	Phoenix	503	15	15.20	1.01	13.25	23	18.19	89.62	2
	Paul Cameron	Coronado	704	23	12.80	0.56	11.16	213	16.24	87.76	5
	Desert Sky Farms	Phoenix	1013	23	17.55	0.76	15.30	546	14.94	86.15	7
	Diamond S. Farms	Phoenix	1101	18	18.75	1.04	16.35	419	15.79	85.97	6
	Gargulo Farms	Phoenix	1202	29	16.40	0.57	14.30	223	17.56	88.73	5
	Hannon Ranches, L	Phoenix	1601	30	21.85	0.73	19.05	243	17.13	88.48	5
	Gary Mamer	Phoenix	2801	29	13.15	0.45	11.47	257	16.28	86.69	5
	Raymond O'Connell	Coronado	3201	29	20.50	0.71	17.88	204	15.26	86.32	5
	Rutherford's II	Coronado	4204	31	12.90	0.42	11.25	37	17.21	88.08	2
	Charles Slater	Beta 4521	4401	28	17.95	0.64	15.65	74	17.87	88.95	3
	Ralph Taylor	Phoenix	4810	21	19.20	0.91	16.74	83	17.29	88.79	4
	R.B. Wilson	Phoenix	5901	24	14.80	0.62	12.91	199	17.87	88.47	5
	TOTAL				25	16.75	0.70	14.61	210	16.80	87.83

SAMPLE NO. 4

ROOT SAMPLES - BRAWLEY FACTORY

Date: March 7, 2011

AGRICULTURIST	GROWER		CONTR NO	NO BEETS	SAMPLE WEIGHT	ROOT WEIGHT	TPA	BREI PPM	SUGAR %	% PURITY	BREI NO3
COLBY DRYE CENTRAL	John Benson	Phoenix	503	18	31.25	1.74	27.25	35	17.34	89.43	2
	Paul Cameron	Coronado	704	29	20.15	0.69	17.57	40	16.79	88.93	3
	Desert Sky Farms	Phoenix	1013	22	24.60	1.12	21.45	233	15.89	88.60	5
	Diamond S. Farms	Phoenix	1101	14	21.75	1.55	18.97	245	15.98	88.53	6
	Gargulo Farms	Phoenix	1202	30	21.35	0.71	18.62	60	18.19	90.72	3
	Hannon Ranches, L TD	Phoenix	1601	20	24.45	1.22	21.32	110	17.79	91.28	4
	Gary Mamer	Phoenix	2801	26	21.60	0.83	18.84	56	17.83	90.31	3
	Raymond O'Connell	Coronado	3201	18	20.50	1.14	17.88	128	16.74	89.61	4
	Rutherford's II	Coronado	4204	32	21.60	0.68	18.84	44	16.23	89.74	3
	Charles Slater	Beta 4521	4401	21	21.05	1.00	18.36	24	18.10	91.17	2
	Ralph Taylor	Phoenix	4810	15	22.60	1.51	19.71	26	18.41	91.47	2
	R.B. Wilson	Phoenix	5901	18	21.40	1.19	18.66	83	18.96	91.08	4
	TOTAL				22	22.69	1.11	19.79	90	17.34	90.07

Desert Valley Ag Services

140 West 5th Street
Holtville, CA 92250
(760) 356-1115

Sample Date: 3/8/11

Report Date: 3/10/11

Report of Soil Analysis

Grower: JOHN BENSON
Crop: SUGARBEETS

Field	Area	SP	ECe	-----ppm-----								
				NO3-N	PO4-P	K	Mg	Ca	Cu	Fe	Mn	Zn
MULLEN 4 N	1'	68	1.6	15	10							
	2'	70	1.4	11	5							
	3'	66	1.2	4	4							
MULLEN 4 S	1'	68	1.7	12	20							
	2'	72	1.7	3	15							
	3'	72	1.6	3	15							

PAGE 02/06

Reported To: BENSON FARMS

Field: NULLEN 4 SO.

Acres: 74.2 Flow:

SAMPLE DATE	LAB #	* AREA	P L A N T				S O I L					* FERTILIZE			
			NO3-N PPM	PO4-P PPM	%N	%K	AREA	NO3-N PPM	PO4-P PPM	Sp	K PPM	ECe	Zn	*A/R	N P2O5
//**	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
		2	4467	2908		4.34									
		3	5031	2940		4.20									
		4	5018	2762		4.46									

12/05/10 UN 32

12/27/10 07969

1	8183	2887		5.04
2	7400	3136		5.21
3	5357	2882		5.02
4	4785	3058		4.73

A 35 0

WATER RUN 25 UNITS N/AC UN-32/AC TO MAINTAIN ADEQUATE N.

P AND K ARE HIGH. RECHECK AFTER

R 25 0

1/19/11 10403

1	1803	2480		4.57
2	1136	2681		4.34
3	1285	2757		4.04
4	1146	2632		3.81

UPDATED RECOMMENDATION, WATER RUN 40 UNITS N/AC UN-32 TO INCREASE N TO ADEQUATE. THIS WILL BE THE LAST OPPORTUNITY TO APPLY UN-32. THIS FIELD IS SLATED TO HARVEST IN MID-APRIL.

THIS FIELD IS RECHECK.

2/02/11 10822

1	1535	2168		4.44
2	1078	1957		4.21
3	1159	2258		4.14
4	730	2372		4.02

WATER RUN 50 NITS N/AC AN-20.

FIELD IS SLATED FOR AN EARLY DIG. RECHECK AFTER IRRIGATION.

2/07/11 AN 20

2/18/11 11291

1	758	2565		3.72
2	795	2749		3.65

A 40 0

STANWORTH CO

7609222770

20:05

02/16/2005

Reported To: BENSON FARMS

Field: MULLEN 4 SO.

Acres: 74.2

Flow:

SAMPLE DATE	LAB #	* AREA	P L A N T			S O I L					* FERTILIZE				
			NO3-N PPM	PO4-P PPM	%N	%K	* AREA	NO3-N PPM	PO4-P PPM	Sp	K PPM	ECe	Zn	*A/R	N P2O5
//**	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
		3	3739	2805			3.78								
		4	2431	2667			3.74								

NO N IS NEEDED, FIELD RECEIVED AN-20 IN LAST IRRIGATION, RECHECK AFTER IRRIGATION.

3/01/11	11757	1	990	1345		5.13
		2	846	1399		5.06
		3	555	1750		4.24
		4	2769	1473		4.42

3/02/11

THIS IS A RECHECK. NO N IS NEEDED. FIELD RECIEVED AN-20 IN LAST IRRIGATION, RECHECK AFTER IRRIGATION.

3/11/11

SEE UPDATED PRE-SIDE DRESS SOIL TEST RESULTS. ABOVE. THEY NOW INCLUDE P AND K. SEE OCTOBER RESULTS

PAGE 03/05

STANWORTH CO

6049222770

CG:05

9007/01/70

W W W - S T A N W O R T H . N E T
C R O P C O N S U L T A N T S

Plant & Soil Analysis Report

File No. SCB-11
Page 2
Date: 03/11/11

Reported To: BENSON FARMS

Field: MULLEN 4 NO.

Acres: 72.4 Flow:

SAMPLE DATE	LAB #	* AREA	P L A N T				S O I L					FERTILIZE					
			NO3-N PPM	PO4-P PPM	%N	%K	AREA	NO3-N FPM	PO4-P PPM	Sp	K PPM	ECe	Zn	*A/R	N P2O5		
//**	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
		2	7540	3301													
		3	6817	3414			5.75										
		4	6401	3321			5.04										
							4.85										

11/28/10 UN 32

12/27/10 07965

1	11235	3285					
2	10825	3681					5.02
3	10121	3012					5.32
4	12404	3009					5.09
							5.13

A 60 0

GOOD RESPONSE, N, P AND K ARE HIGH. NONE IS NEEDED. RECHECK AFTER IRRIGATION.

1/19/11 10399

1	3353	2629					
2	2347	3100					4.11
3	2076	3203					4.23
4	2406	2464					4.20
							3.62

UPDATED RECOMMENDATION, WATER RUN 40 UNITS N/AC UN-32 TO INCREASE N TO ADEQUATE. THIS FIELD IS RECHECK.
SLATED TO HARVEST IN MID-MAY. THIS WILL BE THE LAST OPPORTUNITY TO APPLY UN-32.

2/02/11 10818

1	1659	2182					
2	556	2203					4.14
3	938	2371					4.05
4	944	2461					4.22
							4.28

WATER RUN 40 UNITS N/AC AN-20. FIELD IS SLATED FOR AN EARLY DIG. RECHECK AFTER IRRIGATION.

2/07/11 AN 20

2/18/11 11304

1	1394	2816					
2	632	2760					3.93
3	1566	2768					4.21
							3.82

A 40 0

Reported To: BENSON FARMS

Field: MULLEN 4 NO.

Acres: 72.4 Flow:

SAMPLE DATE	LAB #	* AREA	P L A N T				S O I L				* ECe	Zn	* A/R	FERTILIZE N P2O5
			NO3-N PPM	PO4-P PPM	%N	%K	AREA	NO3-N PPM	PO4-P PPM	SP				
//**	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
		4	2807	3044		3.90								

FIELD RECIEVED AN-20 IN LAST IRRIGATION, RECHECK AFTER IRRIGATION.

3/01/11	11753	1	3174	2415		4.61
		2	506	1545		5.58
		3	3378	1848		4.97
		4	3267	1856		4.45

THIS IS A RECHECK. N IS RESPONDING, FIELD RECIEVED AN-20 IN LAST IRRIGATION, RECHECK AFTER IRRIGATION.

3/10/11

SEB UPDATED PRE-SIDE DRESS SOIL TEST RESULTS. THEY NOW INCLUDE P AND K. SEE OCTOBER RESULTS ABOVE.